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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,831	11/26/2003	Brian D. Swander	M1103.70170US00	9365

45840 7590 09/07/2007

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EXAMINER	
LEMMA, SAMSON B	
ART UNIT	**PAPER NUMBER**
2132	

MAIL DATE	DELIVERY MODE
09/07/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/722,831	SWANDER, BRIAN D.	
	Examiner	Art Unit	
	Samson B. Lemma	2132	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/10/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This is in reply to application filed on November 26, 2003. Claims 1-26 have been examined.

Priority

2. This application does not claim priority. Therefore, the effective filling data for the subject matter defined in the pending claims of this application is **11/26/2003.**

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. **Claims 16-20 and 21-26** are rejected under 35 U.S.C. 101 because the subject matter is directed to non-statutory subject matter.

5. **Claims 16-20 and 21-26** recites a "computer-readable medium/media". The submitted/published applicant's disclosure on paragraph 0028 indicates that such computer readable media/medium may comprise computer storage media and **communication media**. However, Examiner asserts that such a medium does not fall within the statutory classes listed in 35 USC 101, because it embodies the following. *[See Applicant's submitted/**published disclosure paragraph 0028**]*

"*Communication media typically embodies computer readable instructions, **data structures, program modules or other data in a modulated data signal such as a***

carrier wave *or other transport mechanism and includes any information delivery media. The term "**modulated data signal**" means a signal that has one or more of its characteristics set or changed in such a manner as to encode information in the signal. By way of example, and not limitation, communication media includes wired media such as a wired network or direct-wired connection, and **wireless media such as acoustic, RF, infrared and other wireless media**. Combinations of the any of the above should also be included within the scope **of computer readable media**."*

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Independent **claims 16 and 21** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Independent claims 16 and 21, recites the following limitation "**A computer-readable medium for executing computer-readable instructions**...."

Examiner asserts the fact that a "computer-readable medium" does not executes instructions rather it stores instructions in it. The claim limitations should have been written how the instructions stored in the computer-readable medium when executed by the appropriate hardware such as a "processor" performs the set of functions/steps recited in the body of the respective independent claims.

Appropriate correction is required.

8. **Claims 17-20 & 22-26** depend from the rejected independent claims 16 and 21 respectively, and include all the limitations of the respective claims, thereby rendering those dependent claims indefinite.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. **Claims 1-26** are rejected under 35 U.S.C. 102(e) as being anticipated by **Goldberg et al** (hereinafter referred as **Goldberg**)(U.S. Publication No. 2004/0013112 A1) (filed on May 9, 2001)

11. **As per independent claims 1, 11, 16 and 21 Goldberg discloses a method for dynamically creating and maintaining a set of indices in a computer, wherein the indices identify a plurality of filters defining a network policy and wherein the indices are used by a firewall to identify a matching filter, comprising: [Abstract, figure 6, paragraph 0015-0017; 0042, 0048-0049 and 0071-0073 and 0082]** (On abstract the following has been disclosed. *"A novel and useful **dynamic packet filter** that can be incorporated in a hardware based **firewall suitable** for use in portable computing devices such as cellular telephones and wireless connected PDAs that are adapted to connect to the Internet. The invention performs **dynamic packet filtering on packets received over an input packet stream**. The dynamic **filter checks dynamic protocol behavior using information extracted from the received packet**. Sessions are created and stored in a session database to track the state of communications*

between the source and destination. Recognition of a session is accelerated by use of a hash table to quickly determine the corresponding session record in the session database. Session related data is read from the session database and the received packet is checked against ***a set of rules for determination of whether to allow or deny the packet****." Furthermore Figure 6, described how the hashing technique of determining the sessions associated input packets." And on paragraph 0073, the following has been disclosed.* " Upon receipt of a packet, the socket 100 is input to the hash calculator 102 which functions to generate and output a hash result 104. **The hash result is used as the index to the hash table 106 that comprises a plurality of entries 108 each containing a hash pointer.** The hash pointer points to a linked list of sessions 110 in the session database. Each session record in the session database comprises previous 114 and next pointers 112 thus implementing a doubly linked list. If a hit on the socket occurs, each session in the linked list must be checked for a match with the socket of the received packet." Note the hash pointer meet the limitation of the "**indices in a computer, wherein the indices identify a plurality of filters defining a network policy and wherein the indices are used by a firewall to identify a matching filter.**" And the following which is disclosed on paragraph 0015, "the present invention a dynamic filter for filtering an input packet stream comprising a session database adapted to store session related data for a plurality of sessions, each session corresponding to a socket, a session recognition module adapted to search the session database for a session whose associated socket matches that of a received packet, a session management module adapted to maintain the session database including adding, deleting and modifying sessions in the session database and a main filter module operative to track a connection state of the session corresponding to a receive packet and checking the c**onnection state against a plurality of rules to determine whether to allow or deny the received packet**" meets the limitation recited as

"wherein the indices identify a plurality of filters defining a network policy and wherein the indices are used by a firewall to identify a matching filter.")

- **Creating a first index conforming to a first index type; [Paragraph 0073; figure 6, see "Session 1"]** *(Upon receipt of a packet, the socket 100 is input to the hash calculator 102 which functions to generate and output a* ***hash result 104. The hash result is used as the index to the hash table*** *106 that comprises a plurality of entries 108 each containing a hash pointer.)*

- **Identifying, in the first index, a first set of filters, each filter in the first set of filters specifying network packets subject to the network policy; [Figure 6 and Paragraph 0016,** *"checking the connection state against a plurality of rules to determine whether to allow or deny the received packet")*

- **Maintaining statistics including a selected criteria and a corresponding value, wherein the value identifies a number of filters from the first set of filters meeting the selected criteria;** *[Paragraph 0104] (Field 30 stores the timestamp used to age a session. Time is represented in 16 bits and stored as a time difference or delta in accordance with the particular protocol. Periodically, the CPU instructs the session management module to perform session aging whereby sessions that have aged out are closed.)*

- **Determining that the corresponding value exceeds a threshold value; [Claim 8, 20 and 33]** *(The method, further comprising the step of removing sessions whose associated timestamps have exceeded a predetermined threshold.)*

- **Creating a second index conforming to a second index type; identifying, in the second index, a second set of filters, wherein the second set of filters are a subset of the first set of filters;** [Paragraph 0014 and figure 6; See, "Session 2" in a

linked list shown on figure 6] *(As it is shown on dependent claim 2, and the applicant's specification the* "second index type is a linked list." Such linked list is disclosed on paragraph 0073 and figure 6] (On paragraph 0073, the following has been disclosed. *"Upon receipt of a packet, the socket 100 is input to the hash calculator 102 which functions to generate and output a hash result 104. The hash result is used as the index to the hash table 106 that comprises a plurality of entries 108 each containing a hash pointer. The hash pointer points to a linked list of sessions 110 in the session database. Each session record in the session database comprises previous 114 and next pointers 112 thus implementing a doubly linked list. If a hit on the socket occurs,* ***each session in the linked list must be checked for a match*** *with the socket of the received packet".* And on paragraph 0014 the following has been disclosed.

"There is also provided in accordance with the present invention a method of monitoring the state of a communications session, the method comprising the steps of establishing a session database adapted to store session related data for ***a plurality of sessions, each session*** *corresponding to a socket, recognizing a session in accordance with a first hash calculation on the socket associated with a received packet, recognizing a hole session in accordance with a second hash calculation on a partial socket associated with the received packet, reading session data from the session database, the session data associated with either a recognized session or a recognized hole session, tracking a connection state of the session and checking the state against a plurality of rules to determine whether to allow or deny the received packet and writing updated session data back into the session database.")* ***and***

- **Removing identification of the subset of filters from the first index. [Claim 8, 20 and 33]** *(The method, further comprising the step of* ***removing sessions*** *whose associated timestamps have exceeded a predetermined threshold.)*

12. <u>As per claim 2, 22 Goldberg</u> discloses a method as applied to claims above. Furthermore, Goldberg discloses the method, wherein the second index type is a linked list. [paragraph 0073 and paragraph 0057] (*(As it is shown on dependent claim 2, and the applicant's specification the* "second index type is a linked list." Such linked list is disclosed on paragraph 0073 and figure 6] (On paragraph 0073, the following has been disclosed. *"Upon receipt of a packet, the socket 100 is input to the hash calculator 102 which functions to generate and output a hash result 104. The hash result is used as the index to the hash table 106 that comprises a plurality of entries 108 each containing a hash pointer. The hash pointer points to a linked list of sessions 110 in the session database. Each session record in the session database comprises previous 114 and next pointers 112 thus implementing a doubly linked list. If a hit on the socket occurs,* ***each session in the linked list must be checked for a match*** *with the socket of the received packet")*

13. <u>As per claims 3-5, 12-14 and 23-25 Goldberg</u> discloses a method as applied to claims above. Furthermore, Goldberg discloses the method, wherein the second index type is a tree data structure. *[Paragraph 0073 and 0057] ("linked list disclosed on paragraph 0073 and 0057 and shown on figure 6, is a data structure.)*

14. <u>As per claim 6, 15 and 26 Goldberg</u> discloses a method as applied to claims above.

Furthermore, Goldberg discloses the method, wherein the second index is a hash table. [paragraph 0057 and 0057, and figure 6 see "hash table"]

15. <u>As per claims 7, 17 Goldberg</u> discloses a method as applied to claims above. Furthermore, Goldberg discloses the method, wherein the plurality of filters include a set of filter conditions including a plurality of field types and corresponding field data, further comprising: selecting one or more field types

from the plurality of field types to be indexed. *[See paragraph 0098, "session database record fields]*

16. As per claims 8-9, 18-19 Goldberg discloses a method as applied to claims above. Furthermore, Goldberg discloses the method, wherein the second index is a linked list, and each filter includes a weight value, further comprising: ordering the filters in the linked list such that a filter with a highest weight value is first in the linked list and a filter with the lowest weight value is last in the linked list. *[Figure 6, ref. "second session"]*

17. As per claims 10, 20 Goldberg discloses a method as applied to claims above. Furthermore, Goldberg discloses the method, wherein the second set of filters include filter conditions that meet the selected criteria.[Paragraph 0015 and figure 6] ("the present invention a dynamic filter for filtering an input packet stream comprising a session database adapted to store session related data for a plurality of sessions, each session corresponding to a socket, a session recognition module adapted to search the session database for a session whose associated socket matches that of a received packet, a session management module adapted to maintain the session database including adding, deleting and modifying sessions in the session database and a main filter module operative to track a connection state of the session corresponding to a receive packet and checking the **connection state against a plurality of rules to determine whether to allow or deny the received packet**" meets the limitation recited **"second set of filters include filter conditions that meet the selected criteria")**

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.(See PTO-Form 892).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samson B Lemma whose telephone number is 571-272-3806. The examiner can normally be reached on Monday-Friday (8:00 am---4: 30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, BARRON JR GILBERTO can be reached on 571-272-3799. The fax phone number for the organization where this application or proceeding is assigned is 571 -873-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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